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ABSTRACT

Characteristics of the 1981 graduating class of The City University of New York and their status about 1 year after graduation were studied. Findings include the following: within 1 year of graduation, those employed reported average incomes of about $16,000 and fewer than 6 percent said they were unable to find employment; minority students were represented among graduates at 3 times the national average; 61 percent of the graduates were women; almost 90 percent of the bachelors and 75 percent of the associates worked while enrolled at the university; 45 percent of the associate and 38 percent of the baccalaureate graduates were over 25 years old; about one-third of all graduates came from families with annual incomes of less than $12,000; only 10 percent of the associates and 20 percent of the bachelors had parents who had earned a college degree; almost 75 percent of associates and 50 percent of bachelors took longer than the traditional on-time period to earn their degree; almost 55 percent of associates and 46 percent of bachelors enrolled in other educational programs after completing their degree. Comparisons were also made with the experiences of June 1979 graduates. Information is included on type of job entered by degree, salaries by degree, and postgraduate disciplines pursued. The survey questionnaire is appended. (Author/SW)

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ED237002

Persistence and Achievement:

The June 1981 Graduates from The City University of New York

Office of Institutional Research and Analysis
The City University of New York

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PERSISTENCE AND ACHIEVEMENT:
A Profile of Graduates From The City University of New York

James Murtha, William Protash, and Barry Kaufman

Office of Institutional Research and Analysis
THE CITY UNIVERSITY OF NEW YORK

CONTENTS

	Page
LIST OF TABLES	v
PREFACE	vii
ACKNOWLEDGEMENTS	ix
SUMMARY OF FINDINGS	xi
I. INTRODUCTION	1
II. BACKGROUND CHARACTERISTICS	3
Sex	3
Age	3
Minority Representation in the Graduating Class	4
Marital and Family Status	5
Employment Status Prior to Graduation	5
Socio-Economic Status Prior to Graduation	6
III. TIME TO GRADUATION	11
IV. LABOR MARKET EXPERIENCES	17
Employment Status	17
Jobs and Salaries	18
V. POST GRADUATION EDUCATIONAL EXPERIENCES	25
VI. CONCLUSIONS AND IMPLICATIONS	29
REFERENCES	31
APPENDICES	33
A. DESIGN AND METHODOLOGY	33
B. SURVEY QUESTIONNAIRE	35

LIST OF TABLES

		Page
Table II.1.	Sex distributions of enrollees, graduates and respondents by degree	3
Table II.2.	Age distributions by degree	4
Table II.3.	Ethnicity by degree	5
Table II.4.	Marital status by degree	5
Table II.5.	Employment status while enrolled at CUNY by degree 1979-1981	6
Table II.6.	Family income of Associate graduates by dependent/independent status 1979-1981	7
Table II.7.	Family income of Bachelor graduates by dependent/independent status 1979-1981	7
Table II.8.	Parents' education of Associate graduates 1979-1981	8
Table II.9.	Parents' education of Bachelor graduates 1979-1981	9
Table III.1.	Number of years from first registration to graduation by degree	11
Table III.2.	Patterns of enrollment by degree	12
Table III.3.	Leaves of absence by degree	12
Table III.4.	Average years from first enrollment to graduation by pattern of enrollment and degree	13
Table III.5.	Pattern of enrollment by employment status and degree	14
Table III.6.	Leaves of absence by employment status and degree	14
Table IV.1.	Employment status one year after graduation by degree 1979-1981	17
Table IV.2.	Extent to which employment is related to undergraduate program by degree	18
Table IV.3.	Perceptions of career advancement by degree	19

LIST OF TABLES

		Page
Table IV.4.	Job satisfaction by degree	19
Table IV.5.	Associate degree program at the time of graduation for sample and population	20
Table IV.6.	Bachelor degree program at the time of graduation for sample and population	20
Table IV.7.	Average salaries by degree 1979-1981	21
Table IV.8.	Job type by degree	21
Table IV.9.	Average salaries by employment history for total sample of graduates 1979-1981	22
Table IV.10.	Average salaries by Associate degree programs	23
Table IV.11.	Average salaries by Bachelor degree programs	23
Table V.1.	Educational experiences since graduation by degree	25
Table V.2.	Educational experiences since graduation by degree: graduates enrolled as full-time students	25
Table V.3A.	Distribution of post-graduate disciplines for Bachelor graduates enrolled in degree programs	26
Table V.3B.	Distribution of Bachelor disciplines for Associate graduates enrolled in degree programs	27
Table A-1.	Response rates of June 1981 graduates	33
Table A-2.	College sampling proportions	34
Table A-3.	Response rates by sex	34

PREFACE

For generations now, City University has served as a vehicle of opportunity for the residents of New York City. Through its enhancement of social and educational mobility, the University provides a vital service: producing skilled employees for the local economy and intellectual capital for graduate schools around the country.

The report which follows chronicles the experiences of today's graduates from City University and charts the impact of recent economic changes on employment prospects. Despite the current hard times in the City and the nation, our graduates do extremely well: the overwhelming majority are either working full time or enrolled for additional education.

Moreover, by moving in increasing numbers into highly technical fields--such as computer science-- our graduates are responding to the great technological changes that our society is now undergoing and which will likely continue into the next century.

I would note also that, along with their training in particular technical and professional fields, graduates of The City University of New York have had a sound preparation in the liberal arts. Their exposure to the broad spectrum of art, culture, and scholarly activity will enrich both them and the wider community in the years ahead.

Joseph S. Murphy

Chancellor

ACKNOWLEDGEMENTS

This study is the product of efforts by a number of persons both from within The City University of New York and outside it. Several years ago the Office of Institutional Research and Analysis began a research project focusing on the outcomes of education as evidenced in the experiences of graduates. To date we have analyzed short-term experiences in the labor market and with advanced education; in the future we plan to extend our studies by examining the career development of former students several years after graduation.

Our research on graduates has been supported in part by the New York State Education Department (SED) through federal funds provided under the Vocational Education Act. These funds support the collection of follow-up information on those who complete occupational education programs at the community college level. The data are then included as part of New York State's Occupational Education Data System. This funding, which has been ongoing for three years, has been helpful to both the University's efforts in measuring the outcomes of its programs and to the State's goal of a comprehensive reporting system for postsecondary occupational education. Two individuals at SED have been particularly instrumental in moving the project along: Chuck Devoe who is responsible for the statewide collection of information on occupational education programs and Mike Van Ryn, Chief of the Bureau of Grants Administration. These two individuals, along with others at SED, recognized early on the potential of our research efforts. We take this opportunity to thank them for their help and cooperation over the years as well as for their contribution in making our reporting on City University students a model for the rest of the State.

The survey of June 1981 graduates which forms the basis for this report was also partially funded by The Italian American Institute to Foster Higher Education. We thank Mr. Louis Cenci, Executive Director of the Institute, for his cooperation.

Several persons from the Office of Institutional Research assisted us on the study: Frank O'Dowd supervised the data collection; Carla McGowan did much of the programming and data processing; Beverly Tempkins, Linda Martin, David Hyllegard and Gulab Bhouraskar performed the myriad of data processing tasks associated with a project of this magnitude. We also thank the entire Institutional Research staff for their assistance and collegiality.

We are indebted most of all to the graduates who completed the mail questionnaire and without whose cooperation the study would not have been possible.

SUMMARY OF FINDINGS

The following are highlights from a study of the June 1981 graduates from the colleges of The City University of New York. The study describes their experiences while attending the University and their status approximately one year after graduation. Comparisons are also made with the experiences of the June 1979 graduates of The City University of New York. These comparisons are especially important in light of recent changes in the New York City economy.

GRADUATES OF THE CITY UNIVERSITY REFLECT A DIVERSITY OF NEW YORKERS

- Minority students are represented among City University graduates at about three times the national average. Almost 50 percent of Associates and 32 percent of Bachelors graduates are members of minority groups. These proportions represent a slight gain in minority representation since 1979.

- Women are a majority (61 percent) of the graduates, and their numbers have increased since 1979.

- Forty-four percent of Associates and 38 percent of Bachelors are over 25 years of age.

MANY GRADUATES MUST BALANCE FAMILY AND WORK RESPONSIBILITIES WITH COURSEWORK

- Just over one-quarter of the graduates were married while attending the University. Approximately two-thirds of married Associates and one-half of Bachelors were raising families while attending classes.

- One in five Bachelors and Associates worked full time while attending classes. Compared to the 1979 class, the total number of graduates who were working while attending classes increased by 10 percent.

COMPARED TO THEIR PARENTS MOST GRADUATES ARE UPWARDLY MOBILE

- Over one-third of Associates and one-fifth of Bachelors came from families with annual incomes under $12,000. Among students who were financially independent of their parents, over 50 percent of Associates and 37 percent of Bachelors earned less than $12,000 annually.
- Over three-quarters of Associates and two-thirds of Bachelors came from homes where neither parent attended college.
- Over one-fourth of Associates and one-fifth of Bachelors came from families where neither parent went beyond the eighth grade.
- Compared with the 1979 graduates, the parents of the 1981 graduates were less educated, indicating a slight rise in educational mobility.

THE NEED TO WORK LENGTHENS THE TIME IN COLLEGE

- Almost 75 percent of Associates and 50 percent of Bachelors took longer than the traditional 'on-time' period to earn their degree (8 semesters for 4-year programs, 4 semesters for 2-year programs). The 1981 graduates had a slightly higher 'on-time' graduation rate than those from the 1979 class.
- Part-time attendance and leaves of absence constitute the major influence on length of time to graduate. The primary causes of these non-traditional patterns of attendance are employment, economic, and family responsibilities, rather than academic problems.

THE CITY UNIVERSITY DEGREE PROVIDES LEVERAGE IN THE LABOR MARKET

- Approximately two-thirds of the graduates were working full time one year after graduation. Bachelors were more likely to be working full time than Associates.
- Less than six percent of the graduates are unemployed, i.e., neither working nor pursuing further education. This rate shows very little change from the earlier study.

- As compared to the earlier study, the 1981 graduates are more likely to express satisfaction with their jobs and to see them as related to their undergraduate training. However, the 1981 graduates are less optimistic about career advancement. The latter finding probably reflects the decline in the New York City economy over the two-year period.

- Bachelors are more likely to be employed in professional and managerial positions than are Associates (65 percent versus 45 percent).

SALARIES HAVE KEPT PACE WITH INFLATION

- The average annual income of the graduates employed full time was approximately $16,000. Bachelors earned on average $1,200 more per year than Associates. Compared to the 1979 graduates there was no change in average income (of both Bachelors and Associates combined) once adjustments for inflation were taken into account. However, 1981 Bachelors experienced a four percent increase in annual salary over the two year period, while the average for Associates declined by more than eight percent.

- Similar to the earlier study, those who held their job prior to graduation earned approximately $3,000 more per year than those who began their job after graduating. However, once inflation is taken into account, graduates who began their job after graduating experienced a seven percent rise in salary as compared to their 1979 counterparts, while those employed prior to graduation experienced a five percent decline in average salary.

NEARLY HALF OF CITY UNIVERSITY GRADUATES CONTINUE THEIR EDUCATION

- Almost fifty-five percent of Associates and forty-six percent of Bachelors enrolled in other educational programs after completing their degree.

- Of those enrolled, two-thirds of Associates and twenty percent of Bachelors continued at The City University.

I. INTRODUCTION

This report describes the experiences of recent Associate and Baccalaureate graduates from The City University of New York (CUNY) within one year following their graduation.* The data are drawn from a follow-up survey of the University's June 1981 graduating class. The survey was conducted in Spring 1982. Questionnaires were mailed to all of the 9,083 graduates; slightly more than 4,000 questionnaires were returned, resulting in a 48 percent effective response rate. (See Appendix A for additional methodological details.) This large number of respondents and the lack of severe response biases indicate that the results reported here are generalizable to the wider population of City University graduates. Included in the sample are both Bachelor (BA, BS, etc.) and Associate (AA, AS, AAS) graduates from the various undergraduate degree programs of the nine senior, seven community, and one technical college that comprise the CUNY system (see Table A-1).**

Where items are similar and there are sufficient cases we compare the findings of the recent study with those reported in our earlier sample survey (see Kaufman, Murtha, and Warman, 1981). We note that the larger number of cases for the 1981 class yields more precise population estimates for the recent period and that comparisons with the earlier study must be made with caution.

The report is organized into four sections: background characteristics, length of student careers, labor market experiences since graduation, and subsequent education. Since the study includes both Associate and Baccalaureate degree recipients, we focus on differences between these two groups throughout the report. For convenience we refer to these two groups as BAs and AAs.

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* This study was funded in part by the New York State Education Department (SED #31 000 28 3020, VEA project #53 82 9005); and a small grant from the Italian American Institute to Foster Higher Education.

** The City University also includes a graduate school, a law school, and an affiliated medical school.

II. BACKGROUND CHARACTERISTICS

Sex

Women outnumber men among CUNY students and this sex differential is even more pronounced among graduates where women constitute more than 60 percent of the total population (see Table II.1).

Table II.1: SEX DISTRIBUTIONS OF ENROLLEES, GRADUATES AND SURVEY RESPONDENTS BY DEGREE*

	Associates			Bachelors		
Sex	Enrollees	Graduates	Respondents	Enrollees	Graduates	Respondents
Women	56.2	61.3	61.3	57.2	61.0	68.4
Men	43.8	38.7	38.7	42.8	39.0	31.6
(N)	(13486)	(3317)	(2615)	(19585)	(5354)	(1369)

* Enrollment data is from Fall 1979 for Associates and Fall 1977 for Bachelors.

This finding corroborates earlier results (Kaufman, Murtha, and Warman, 1981) indicating that women are more likely to graduate than men. As in our study of the class of 1979, women are more likely than men to return a completed questionnaire. As a result women constitute 63 percent of our survey respondents as opposed to 61 percent of the population of graduates. This difference constitutes the only known source of significant response bias in our study. Since we know that women graduates tend to earn less than men within the one year period following graduation (see Murtha and Kaufman, 1981), we expect that the overrepresentation of women among the graduates somewhat depresses our aggregate salary findings.

Age of Graduates

In addition to recent high school graduates, The City University continues to attract older, nontraditional students. Among the June 1981 graduates, 23 percent of BAs and 30 percent of AAs were over 30 years of age (see Table II.2).

Table II.2: AGE DISTRIBUTIONS BY DEGREE

Age	Associates	Bachelors
21 and under	23.8	4.4
22-25	32.4	57.4
26-30	13.9	14.9
31-35	12.2	8.8
36 and over	17.7	14.5
Total %	100.0	100.0
(N)	(1352)	(2584)
Mean	28.0	27.8

The comparable figures in 1979 were 19 percent and 27 percent respectively, indicating approximately a three percent increase over the two year period in the proportion of graduates in the older age groups. Correspondingly, the number of graduates aged 21 and under declined by three percent since 1979 among both the Associate and Baccalaureate recipients. These shifts suggest that City University students are increasingly more likely to be young adults who have worked for a few years between high school and college as well as older students who combine education with family and career responsibilities. These two groups stand in marked contrast to the national profile of the typical college student as one who enters college right after finishing high school (see Astin et al, 1980). Consequently, the age profile of CUNY students shows an increasingly wide range, including recent high school graduates together with both young and older adults.

Minority Representation in the Graduating Class

City University has been an important path of access to higher education for New York City's urban poor. Open Admissions, as well as special programs like SEEK (Search for Education, Elevation and Knowledge) and CD (College Discovery), significantly extended this access to the city's Black and Hispanic minorities, which previously had been underrepresented at the University because of its highly selective admissions criteria (see Lavin, Alba and Silberstein, 1981, chapter 1). Though minority students have lower graduation rates than white students (see Lavin, Alba, and Silberstein, 1981; Kaufman, Murtha, and Warman, 1981), we find that minorities make up a large part of the June 1981 graduating class -- approximately one-third of the BAs and one-half of the AAs were members of minority groups (see Table II.3).

Table II.3: ETHNICITY BY DEGREE

Ethnicity	Associates	Bachelors
Black	27.6	16.0
Hispanic	17.0	11.1
White	50.9	67.8
Other	4.5	5.1
Total %	100.0	100.0
(N)	(1352)	(2583)

These figures are roughly equal to those found in our study of June 1979 graduates, with slight gains in total minority representation. However, over the two-year period there has been an increase in the number of Hispanic graduates, especially among AAs, while the number of Black graduates has declined slighty. Asians have also increased as a percentage of graduates, primarily in BA programs. The increase in the share of degrees granted to Hispanics and the relative stability in the proportion of degrees going to Blacks are both consistent with recent enrollment trends. While the overwhelming majority of Blacks in New York City who go to college do so at CUNY (upwards of 75 percent) the participation rate of Blacks among recent high school graduates seems to have levelled off while that of Hispanics continues to increase. Blacks are more likely than Hispanics to delay college attendance after completing high school.

Marital and Family Status

Turning to an examination of family and employment status, we find that at least one-quarter of the June 1981 graduates were married prior to completing their degree (see Table II.4).

Table II.4: MARITAL STATUS BY DEGREE

Marital Status	Associates	Bachelors
Married	25.5	28.4
Single	74.5	71.6
Total %	100.0	100.0
(N)	(1367)	(2606)

Among those married almost two-thirds of AAs and almost one-half of BAs were raising a family. These data on marital status and family responsibility roughly approximate those reported for the June 1979 graduates.

Employment Status Prior to Graduation

The decline of the New York City economy in recent years has placed increased financial burdens on most residents. Especially hard hit are the

less affluent who, if they pursue a degree, will most likely do so at City University. The interrelationship between CUNY students and the New York City economy can be seen in the increasing numbers of graduates who were working while attending classes (see Table II.5).

Table II.5: EMPLOYMENT STATUS WHILE ENROLLED AT CUNY, BY DEGREE 1979-1981

	Associates		Bachelors	
Status	1979	1981	1979	1981
Not Employed	33.7	25.3	20.7	11.7
Employed Part Time	40.7	54.3	60.6	70.1
Employed Full Time	25.6	20.4	18.8	18.2
Total %	100.0	100.0	100.0	100.0
(N)	(303)	(1370)	(502)	(2627)

Almost 90 percent of the 1981 BAs and 75 percent of AAs worked while enrolled at The City University. These figures represent nearly a ten percentage point increase over what the 1979 graduates reported. Though the vast majority of both groups were working only part time, almost one-fifth of the graduates held full-time jobs. The fact that so large a number of City University students were employed, at least part time, in order to continue their education, is yet another indication of how they differ from the traditional college-going population. We expect that the percentage employed full time would be higher if the economy were to improve even slightly and more jobs were to open up. While working is a necessity for the majority of students, it also exacts a price in terms of the time it takes to complete the degree. Later in this report we examine the relationship between working during the undergraduate years and the length of students' educational careers.

Socioeconomic Status Prior to Graduation

In examining the socioeconomic background of the 1981 graduates -- as measured by family income -- we find that approximately one-third of all graduates come from families with annual incomes of less than $12,000. This figure, however, varies greatly by degree program and whether the student was dependent upon or independent of his/her family while attending classes (see Tables II.6 and II.7).

Table II.6: FAMILY INCOME OF ASSOCIATE GRADUATES
BY DEPENDENT/INDEPENDENT STATUS 1979-1981

Family Income	Dependent		Independent	
	June 1979 Graduates	June 1981 Graduates	June 1979 Graduates	June 1981 Graduates
Under $4,000	4.3	4.9	15.4	17.8
4,000 - 7,999	9.6	12.9	19.6	21.7
8,000 - 11,999	18.5	18.4	17.1	14.6
12,000 - 15,999	23.9	14.8	15.1	11.8
16,000 - 19,999	12.7	12.4	8.9	10.0
20,000 - 23,999	16.2	11.6	12.8	7.9
24,000 & Over	14.8	25.0	11.1	16.2
Total %	100.0	100.0	100.0	100.0
(N)	(313)	(696)	(154)	(569)

Associate degree graduates came from poorer backgrounds than did Baccalaurete recipients. Of AAs who were dependent on their families while at CUNY, 36 percent had a family income under $12,000 compared to 19 percent of the BA graduates. AAs who were independent were even more disadvantaged in terms of economic resources: 54 percent earned less than $12,000 while attending classes; 40 percent earned less than $8,000.

Baccalaureate recipients who were dependent on their families while attending CUNY were the most advantaged group of graduates in terms of socio-economic status. Almost 40 percent came from families earning more than $24,000, and less than one-fifth were from families whose income was below $12,000. BAs who were independent while attending CUNY were also slightly more advantaged than either dependent or independent AAs.

Table II.7: FAMILY INCOME OF BACHELOR GRADUATES
BY DEPENDENT/INDEPENDENT STATUS 1979-1981

Family Income	Dependent		Independent	
	June 1979 Graduates	June 1981 Graduates	June 1979 Graduates	June 1981 Graduates
Under $4,000	1.1	1.7	16.5	9.6
4,000 - 7,999	10.6	6.5	12.8	14.3
8,000 - 11,999	12.4	10.3	14.8	12.6
12,000 - 15,999	17.7	13.8	14.9	13.6
16,000 - 19,999	14.6	12.2	17.1	12.3
20,000 - 23,999	20.4	15.7	8.2	10.2
24,000 & Over	23.2	39.9	15.6	27.4
Total %	100.0	100.0	100.0	100.0
(N)	(150)	(1635)	(125)	(846)

In comparison to the 1979 graduates, two significant changes have occurred: First, there has been a dramatic rise in the percentage of AA graduates who were financially independent while students. This is consistent with our earlier findings concerning the increase in the number of older students at City University. Secondly, for most groups of graduates, the percentage of students coming from higher income families has increased, suggesting that even though CUNY continues to enroll students from disadvantaged backgrounds, it has also been attracting more students from middle and upper middle class income backgrounds, especially in Baccalaureate programs. These findings, which suggest greater variation in the family income of students at CUNY with increasing numbers at both extremes, are confirmed by Student Census data for the past several years (see CUNY Data Book).

Parents' education is yet another indicator of socio-economic status and of likely social mobility as well. From the distributions in Tables II.8 and II.9 we see that the vast majority of graduates surpass their parents with respect to level of education. While the parents of BAs have gone further in school than the AAs, both groups of graduates were from homes of modest educational attainment. In fact, since only ten percent of AAs and twenty percent of BAs have parents who earned a college degree, we conclude that the majority of graduates are first generation college enrollees.

Table II.8: PARENTS' EDUCATION OF ASSOCIATE GRADUATES 1979-1981

	Father		Mother	
Education	June 1979 Graduates	June 1981 Graduates	June 1979 Graduates	June 1981 Graduates
Post Graduate	3.7	4.3	.7	2.0
College Graduate	8.5	6.8	8.0	5.3
Some College	10.4	12.3	9.8	10.7
High School Graduate	31.1	28.9	37.6	35.7
Some High School	22.2	21.3	18.1	19.3
8th Grade or less	24.4	26.4	25.8	27.1
Total %	100.0	100.0	100.0	100.0
(N)	(270)	(1199)	(287)	(1293)

Table II.9: PARENTS' EDUCATION OF BACHELOR GRADUATES 1979-1981

	Father		Mother	
Education	June 1979 Graduates	June 1981 Graduates	June 1979 Graduates	June 1981 Graduates
Post Graduate	6.1	9.5	6.4	6.2
College Graduate	9.9	11.1	5.1	8.9
Some College	10.9	13.5	11.7	13.8
High School Graduate	28.4	29.5	37.5	37.2
Some High School	16.4	15.7	15.7	14.0
8th Grade or Less	28.2	20.7	23.7	19.9
Total %	100.0	100.0	100.0	100.0
(N)	(475)	(2451)	(485)	(2541)

It is clear that City University continues to play a significant role in providing a college education to students who would otherwise be unable to go beyond high school, while simultaneously drawing students from the more traditional college-going population. Our data reflect this great diversity of CUNY students. The findings show that while many CUNY graduates are members of minority groups, are from low income families, and are among the first generation in their families to receive a college education, a substantial number of the graduates are from somewhat more affluent families. Also, considering age and employment status prior to graduation, our findings again illustrate the heterogeneity of CUNY graduates, ranging from the traditional college student who enrolled directly from high school, to adults who have combined work and family responsibilities while pursuing their education.

III. TIME TO GRADUATION

Previous research on entry cohorts at CUNY has shown that for many students the path to graduation extends well beyond the expected 'on-time' period (Max, 1968; Kaufman and Loveland, 1976; Lavin, Alba, and Silberstein, 1981; Kaufman, Murtha, and Warman, 1981). Among the factors which account for this are family and employment responsibilities which may prevent students from attending classes full time and may also result in their having to take leaves of absence. Part-time attendance and 'stopping out' obviously result in a longer time between freshman registration and graduation. In this section, we will focus on the impact these factors have on the time it takes students to graduate.*

In examining the length of time from first registration to graduation, we find that Associate graduates took on average 3.3 years to receive their degree, while Baccalaureates took on average 4.7 years (see Table III.1).

Table III.1: NUMBER OF YEARS FROM FIRST REGISTRATION TO GRADUATION BY DEGREE

Years	Associates	Bachelors
Two	25.7	1.0
Two and one half	8.4	0.4
Three	29.2	2.5
Three and one half	6.4	1.7
Four	1[illegible].1	42.9
Four and one half	2.4	4.7
Five	4.1	20.9
Five and one half	2.2	3.2
Six or more	10.5	22.8
% taking longer than on time period	74.3	51.5
Average years	3.33	4.68
(N)	(1086)**	(1546)**

** These N's exclude transfer students

* Though similar to the Kaufman, Murtha and Warman (1981) study, the current analysis employs self-reported survey data while the former study examined transcripts. The transcript analysis is more complete and no doubt more accurate.

Almost three-quarters of AAs and over 50 percent of BAs took longer than the conventional time period to complete their degree. These figures are consistent with our earlier research; however, they do not take into account the underlying patterns of attendance of the graduates. We now turn to an examination of how attendance patterns affect the time it takes the student to graduate.

We have already noted that attending college part time and taking a leave of absence substantially extends the undergraduate career. Almost 40 percent of the 1981 graduates attended class as part-time students for at least one semester (see Table III.2). Also, approximately 25 percent of the total group of 1981 graduates took a leave of absence at some point in their college career (see Table III.3). The comparable figures from the earlier study are 50 percent and 17 percent, respectively.

Table III.2: PATTERNS OF ENROLLMENT BY DEGREE

Type of Enrollment	Associates	Bachelors
Only Full Time	60.9	63.0
Mostly Full Time	18.9	18.9
Half Full Time	6.7	5.7
Mostly Part Time	5.6	6.7
Only Part Time	8.0	6.7
Total %	100.0	100.0
(N)	(1368)	(2611)

Table III.3: LEAVES OF ABSENCE BY DEGREE

Leave of Absence	Associates	Bachelors
Yes	25.7	24.2
No	74.3	75.8
Total %	100.0	100.0
(N)	(1367)	(2611)

Graduates who attended CUNY part time took substantially longer to complete their degree than those who enrolled solely full time; this was true for both Associate and Baccalaureate graduates (see Table III.4).

Table III.4: AVERAGE YEARS FROM FIRST ENROLLMENT TO GRADUATION BY PATTERN OF ENROLLMENT AND DEGREE

Type of Enrollment	Associates Mean	Bachelors Mean
Only Full Time	2.82	4.36
Mostly Full Time	3.51	5.28
Half Full Time	4.57	5.77
Mostly Part Time	4.81	5.71
Only Part Time	5.24	5.94
(N)	(1086)*	(1543)*

* These N's exclude transfer students

BAs who began at The City University and attended classes only full time took on average slightly longer than the traditional four year time period to graduate; those who attended part time took on average almost two years longer than the 'on-time' period. For AAs who began at The City University, full-time students graduated on average in under three years, while part-time students took on average more than three years longer than the 'on-time' period of two years. These figures correspond to those of the earlier study for both Associate and Bachelors graduates. In the 1979 study, it was found that heavy remedial courseloads partly accounted for the longer than 'on-time' stay for full-time Associate degree students. Though the current study lacks data on remediation, we assume that the results presented here are similar to the previous ones, in that enrollment in remedial classes early in one's career slows students' progress toward the degree, even for those attending full time.

The need to work is yet another factor that delays graduation, either by forcing the student to attend classes part time or by encouraging leaves of absence. Tables III.5 and III.6 show the relationship between student's employment status and pattern of attendance. The pattern which emerges shows that students who work, especially if they are independent of their parents, are more likely to attend classes part time or take a leave of absence; this holds true for both Associate and Bachelors graduates.

Table III.5: PATTERN OF ENROLLMENT BY EMPLOYMENT STATUS BY DEGREE

	Associates				Bachelors			
	Dependent		Independent		Dependent		Independent	
Status	Worked	Did Not Work	Worked	Did Not Work	Worked	Did Not Work	Worked	Did Not Work
Only Full Time	73.1	85.4	35.8	60.6	78.1	85.3	27.8	56.3
Mostly Full Time	19.0	12.1	21.9	29.4	17.6	12.3	21.6	27.7
Half Full Time	3.0	1.9	12.2	7.7	2.6	1.8	12.7	5.4
Mostly Part Time	2.6	0.6	10.0	6.5	1.4	0.6	19.4	1.8
Only Part Time	2.2	0.0	20.2	5.8	0.2	0.0	18.5	8.9
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(494)	(157)	(411)	(155)	(1295)	(163)	(723)	(112)

Table III.6: LEAVES OF ABSENCE BY EMPLOYMENT STATUS AND DEGREE

	Associates				Bachelors			
	Dependent		Independent		Dependent		Independent	
Leave	Worked	Did Not Work	Worked	Did Not Work	Worked	Did Not Work	Worked	Did Not Work
Yes	17.0	15.3	41.1	30.1	17.2	12.3	42.8	26.8
No	83.0	84.7	58.9	69.9	82.8	87.7	57.2	73.2
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(494)	(157)	(409)	(156)	(1295)	(163)	(722)	(112)

We next examined the relationship between enrollment pattern, employment status, source of support and time to graduation. The general finding was that being employed and being independent of one's parents influenced enrollment and thus greatly extended the length of time between freshman registration and graduation. For BAs, being employed extends the average stay at CUNY by one semester. Those who were dependent and not employed took on average 4.1 years to graduate, while graduates who were working and independent took on average 4.6 years. The impact of being employed and independent is even greater for Associate graduates: those

who were dependent and not working took on average 2.8 years to complete their degree; those who were independent and working took 3.9 years on average to graduate.

Because of its interaction with enrollment patterns, working while attending classes greatly influences the time it takes students to graduate. This combined impact is much greater than the effect of either factor alone. For example, BAs who attended part time and were not working took on average 4.8 years to complete the degree while those who went part time and worked took 5.2 years to finish. (Note that the majority of part-time students are working, and are therefore in the latter category.) The pattern for AAs is similar.

In summary, as in the earlier study, our data show that the majority of CUNY graduates take longer than the 'on-time' period to earn their degree. The major reasons are that many CUNY students are independent of their parents and working; this in turn affects their enrollment patterns. Working students are more likely to enroll part time and are more likely to take leaves of absence, and both of these factors account for the longer stay at CUNY. Working has an independent effect on the length of study, strongly interacting with pattern of enrollment. These findings again demonstrate the differences between CUNY and more traditional, residential colleges where students enroll full time and are not subjected to intense employment pressures. Since over 90 percent of BA and 75 percent of AA graduates worked at least part time, the longer than 'normal' time period between first registration and graduation is inevitable.

IV. LABOR MARKET EXPERIENCES

Employment Status

Seven out of ten of the June 1981 class were employed full time within one year after graduation. Just under six percent reported being unable to find a job. These findings are largely consistent with the 1979 results. Such stability is to be viewed positively, since over the period between the two studies the New York City labor market has suffered the effects of the recent national recession. As a result, the total unemployment rate in New York City has increased from nine percent in 1979 to just over ten percent today (see Viger, 1982). Having said this, however, we note that the New York City economy has been spared some of the worst effects of the current downturn because of its growing service sector. Graduates from City University tend to enter white collar jobs in this sector and are, like the City, spared the more jarring effects of the recession.

Though the picture is mostly stable, the deterioration in the local labor market is reflected in the experiences of the graduates. For example, 1981 graduates were less likely to be working full time and slightly more likely to be unemployed than were 1979 graduates (see Table IV.1). The more recent graduates were also more likely to report attending school full time as a reason for not working. To what extent this trend reflects a shortage of jobs is unclear. However, in analyzing the reasons unemployed graduates gave for not working, we suspect that a decline in the number of entry level jobs may be an important factor in explaining the increasing percentage of graduates who are continuing their education.

Table IV.1: EMPLOYMENT STATUS ONE YEAR AFTER GRADUATION BY DEGREE 1979-1981

	Associates		Bachelors		Total	
Employment Status	1979	1981	1979	1981	1979	1981
Employed full time	68.0	61.4	72.0	69.5	70.0	66.7
Employed part time	16.0	4.7	8.0	6.1	11.0	5.6
Full-time education	8.0	23.3	13.0	16.0	11.0	18.5
Unemployed	4.0	6.8	5.0	4.7	5.0	5.4
Other*	4.0	3.9	2.0	3.8	3.0	3.8
Total %	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(303)	(1370)	(507)	(2626)	(805)	(3996)

* Other includes those not seeking employment because of illness or family responsibilities.

For example, among those not working, we note an increase in the population who report being "unable to find a job" from 14 percent in 1979 to 21 percent in 1981. These findings suggest that the more recent graduates

face somewhat greater difficulty in making the transition from school to work and this trend affects both AAs and BAs equally.

Jobs and Salaries

Graduates working full time were asked to what extent they saw their job as related to their undergraduate training. Compared to the 1979 graduates, there were substantial shifts in the responses of the 1981 BAs, but no changes for the AAs (see Table IV.2). Fifty-six percent of the 1981 BAs felt their job was directly related to their undergraduate training; this compares to 42 percent of those graduating in 1979. We believe that this change reflects the greater concentration in pre-professional majors among the BA students in the recent period. Programs such as computer science and business, which are closely connected to employment opportunites, account for many more graduates in the 1981 class.

Table IV.2: EXTENT TO WHICH EMPLOYMENT* IS RELATED TO UNDERGRADUATE PROGRAM BY DEGREE

	Associates	Bachelors	Total
Relatedness	1981	1981	1981
Not related	23.8	24.4	24.2
Somewhat related	20.3	19.4	19.7
Directly related	55.8	56.2	56.1
Total %	100.0	100.0	100.0
(N)	(1091)	(2063)	(3082)

* Full-time workers only

The downturn in the local labor market has led not only to slightly higher unemployment, but also to increased skepticism about careers. This can be seen in the graduates' perceptions of career advancement (see Table IV.3). In 1979, the response most frequently given by AAs concerning career advancement was that there was definite potential for such advancement (37 percent). However, among the 1981 AA graduates, most responded that advancement was only a possibility (38 percent). A similar, though more modest, change was found among BAs, with fewer respondents reporting that there was a definite potential for advancement over the two year period (41 percent versus 37 percent). Thus, though higher proportions of graduates find employment related to their college training, they are simultaneously less optimistic about their jobs.

Table IV.3: PERCEPTIONS OF CAREER ADVANCEMENT* BY DEGREE

Potential for	Associates 1981	Bachelors 1981	Total 1981
Definite advancement	33.5	37.0	35.9
Possible advancement	38.0	36.1	36.7
Unlikely advancement	12.9	13.5	13.3
Temporary employment	15.4	13.4	14.2
Total %	100.0	100.0	100.0
(N)	(834)	(1815)	(2649)

* Full-time workers only

Having said this, however, we also find that the vast majority of both AAs and BAs felt satisfied with their jobs (see Table IV.4) -- 82 percent of AAs and 81 percent of BAs report being satisfied or very satisfied. BAs, however, were slightly more likely to report being dissatisfied with their current job.

Table IV.4: JOB SATISFACTION BY DEGREE

Degree of Satisfaction	Associates 1981	Bachelors 1981	Total 1981
Very satisfied	24.8	25.2	25.1
Satisfied	59.1	55.5	56.6
Dissatisfied	13.2	15.7	14.9
Very dissatisfied	2.9	3.5	3.3
Total %	100.0	100.0	100.0
(N)	(833)	(1815)	(2648)

Before presenting the findings on salary of graduates, we will examine possible sources of bias caused by differences in the characteristics of the sample and the population. As noted earlier, women are overrepresented in the sample because of their higher response rate. We acknowledge that this may cause deflated salary estimates since prior research (Murtha and Kaufman, 1981) has shown that women graduates earn less than men.

A second source of sampling bias would occur if there were differential response rates by program. This would result in an inflated measure of salary if graduates from programs leading to higher paying jobs -- e.g., engineering -- were overrepresented. Conversely, if graduates from programs which lead to lower paying jobs -- e.g., secretarial science -- were overrepresented, a deflated measure of salary would result. We therefore examined the distributions of degree programs for the sample and population for AAs and BAs (see Tables IV.5 and IV.6).

Table IV.5: ASSOCIATE DEGREE PROGRAM AT THE TIME OF GRADUATION FOR SAMPLE AND POPULATION

Major Field	Sample	Population
Liberal Arts	23.9	25.2
Business	23.2	23.9
Health Professions	18.9	18.2
Engineering	7.6	8.0
Secretarial Science	10.8	9.3
Natural Science Technology	1.8	1.8
Public Services	6.5	6.4
Data Processing	7.3	7.2
Total %	100.0	100.0
(N)	(1334)	(3411)

Table IV.6: BACHELOR DEGREE PROGRAM AT THE TIME OF GRADUATION FOR SAMPLE AND POPULATION

Major Field	Sample	Population
A & S Humanities	13.8	14.4
A & S Natural Science	11.9	11.6
A & S Social Science	37.8	40.1
Total Liberal Arts	63.5%	66.1%
Business	15.8	16.6
Health Professions	9.6	9.3
Engineering	4.1	4.2
Public Services	3.9	3.9
Unknown	3.0	---
Total %	100.0	100.0
(N)	(3999)	(5611)

The distributions of degree program for the sample and population are nearly identical for both AAs and BAs. Only a slight underrepresentation of liberal arts graduates was found for both groups, with a slight over-representation of secretarial science graduates found among our sample of AA graduates. We conclude from this test that the sample is representative of the population in terms of degree program and, therefore, we are confident that the results are close approximations of the actual population values.

In 1981, the average graduate who was working full-time earned $16,477 per year (see Table IV.7). BAs earned approximately $1,200 more a year

than AAs, a difference corresponding to the types of jobs they held (see Table IV.8). For example, BA graduates were more likely than Associate graduates to be employed in professional, managerial, or administrative positions (66 percent versus 45 percent); Associate graduates were more likely than Bachelors graduates to be employed in clerical positions (41 percent versus 22 percent).

Table IV.7: AVERAGE SALARIES* BY DEGREE 1979-1981

	1979		1981		% change	Adjusted
Program	Mean	N	Mean	N	1979-1981	% change**
Associates	$14,543	173	$15,612	772	+7.4	-8.6
Bachelors	$14,094	316	$16,879	1689	+19.8	+3.8
Total	$14,252	489	$16,477	2461	+15.6	-0.4

* Full-time workers only.

** Adjusted % change was calculated by subtracting 16 percent, which was the increase in the Consumer Price Index over the two year period from the unadjusted percentage change in salaries.

Table IV.8: JOB TYPE BY DEGREE

	Associates	Bachelors
Job Type	%	%
Professional	36.9	55.0
Managerial & Administrative	8.1	10.6
Clerical	40.9	22.1
Sales	4.4	5.4
Craftsmen	2.9	1.2
Other Blue Collar	1.4	1.0
Service	5.3	4.7
Total (N)	(826)	(1794)

In comparison to the 1979 graduates, we see that for all 1981 graduates the average salary increased by $2,200 or slightly less then 16 percent. However, this comparison can be misleading due to inflation over the two year period. We therefore adjusted the percentage change in salary over the two year period by subtracting the percentage increase in the Consumer Price Index for the period (16 percent) from the raw percentage change. Once this adjustment is made, we see that 1981 graduates as a group just about kept pace with their 1979 counterparts. However, when examining changes by degree program we see that while the average salary for BAs in-

creased, taking into account inflation, the average salary of AAs declined by over eight percent. This result occurs primarily because of differences in the types of jobs found by the two groups, as well as differences in the types of programs. We will later examine the impact of program more closely.

An important distinction made in the 1979 graduate study with respect to salary was whether the graduate held his or her job prior to graduating. In 1979, those holding jobs prior to graduation earned over $4,000 more per year than those hired after graduation. Similar findings result for the 1981 graduates where those who worked at their jobs prior to graduation earned on average $3,100 per year more than those who started their jobs after graduating (see Table IV.9).

Table IV.9: AVERAGE SALARIES BY EMPLOYMENT HISTORY* FOR TOTAL SAMPLE OF GRADUATES 1979-1981

	1979 Total		1981 Total		% change	Adjusted
Employed	Mean	(N)	Mean	(N)	1979-1981	% change**
Before graduation	$16,610	(207)	$18,413	(888)	10.8	-5.2
After graduation	$12,522	(282)	$15,358	(1573)	22.6	+6.6
Totals	$14,252	(489)	$16,477	(2461)	15.6	-0.4

* Full-time workers only
** See footnote - Table IV.7

However, as with the findings presented in Table IV.7, inflation may be distorting these figures. Therefore, we used the same adjustments as in Table IV.7 to see if the gains made over the two year period are in fact real. Once this adjustment is made, we find that while those holding jobs prior to graduation earned more than those employed after graduating, they lost ground compared to their counterparts from the 1979 study in that their adjusted income was five percent less. Compared to their 1979 counterparts, graduates who began work after earning their degree gained almost seven percent in real yearly salary over the 1979 group (Table IV.9). What this suggests is that the recent group of graduates is getting higher paying entry level positions than the earlier group. This is particularly true for BAs who seem to have improved their market position substantially over the two year period.

We now examine the salary of graduates by degree program in order to highlight variations within the BA and AA groups. Among AAs who were working full time, we find that graduates of technical or business programs earn more on average than do graduates who majored in liberal arts, secretarial science, or public service programs (see Table IV.10). These findings are approximately the same as those found in the 1979 study. Among Baccalaureate graduates, those who majored in engineering, natural sciences, or health related programs earned more on average than graduates

of other BA programs (see Table IV.11). Again, these results approximate those of the earlier study.

Table IV.10: AVERAGE SALARIES* BY ASSOCIATE DEGREE PROGRAMS

Degree Program	Mean Salary
Liberal Arts	$15,413
Business Technology	$16,110
Data Processing Technology	$16,190
Health Professions	$16,561
Engineering	$16,784
Secretarial Science	$13,555
Natural Science Technology	$16,649
Public Services	$12,871
Totals	$15,637

* Full-time workers only

Table IV.11: AVERAGE SALARIES* BY BACHELOR DEGREE PROGRAMS

Degree Program	Mean Salary
A & S Humanities	$14,047
A & S Natural Science	$19,246
A & S Social Science	$15,230
Business	$17,433
Health Professions	$18,847
Engineering	$22,905
Public Services	$17,970
Total	$16,862

* Full-time workers only

In summary, we note that in some respects the more recent graduates have not fared as well as those from 1979. They are slightly more likely to be unemployed; if employed, are less likely to see a potential for advancement and are slightly less likely to be satisfied with their careers. In terms of salary, only BAs and graduates hired after receiving their degree have made gains over the period once we adjusted for inflation. No differences were found in terms of changes in average salary by degree program between the 1979 and 1981 graduates.

Nevertheless, it should be kept in mind that only five percent of the 1981 graduates were unemployed -- see Table IV.1 -- and the average salary

of those employed full time was over $16,000 annually. Note that during the period in question the national unemployment rate for those between 16 and 24 years old was approximately 19 percent, and for the entire working population approximately ten percent. Also, we note that education dramatically influences unemployment rates among young people (Department of Labor, 1983). For example, those who completed college have an unemployment rate of approximately eight percent, which is higher than that of CUNY graduates. The figures for those with less education are considerably higher: almost 12 percent for those with less than 4 years of college; 17 percent for those who have completed high school; and 27 percent for high school dropouts.*

When one considers the CUNY graduates in light of national unemployment data, the job-related benefits of college attendance stand out markedly. We expect this is particularly true for those among the graduates who come from disadvantaged families. For these individuals a college degree provides needed leverage in the New York City labor market where job openings occur primarily in the white collar ranks for which a degree is often an entry ticket.

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* The 27 percent includes high school dropouts between the ages of 20 to 24. For dropouts between the ages of 16 to 19 the unemployment rate is approximately 39 percent.

V. POST GRADUATION EDUCATIONAL EXPERIENCES

Of the 1981 graduates, 46 percent of AAs and 37 percent of BAs enrolled in degree programs within one year after completing their CUNY degree (see Table V.I). We see that for AAs the vast majority stayed at City University, while BAs attended non-CUNY graduate programs somewhat more often than those at CUNY (see Tables V.1 and V.2).

Table V.1: EDUCATIONAL EXPERIENCES SINCE GRADUATION BY DEGREE

Enrollment Status	Associates	Bachelors
CUNY Bachelors Program	33.6	1.5
Other Bachelors	12.3	0.3
CUNY Graduate Program	----	14.7
Other Graduate Program	----	20.9
Other Training	7.9	9.1
Did Not Enroll	46.2	53.5
Total %	100.0	100.0
(N)	(1345)	(2597)

Table V.2: EDUCATIONAL EXPERIENCES SINCE GRADUATION BY DEGREE: GRADUATES ENROLLED AS FULL-TIME STUDENTS

Enrollment Status	Associates Enrolled Full Time	Bachelors Enrolled Full Time
CUNY Bachelors Program	64.8	0.5
Other Bachelors	25.7	0.5
CUNY Graduate Program	----	20.0
Other Graduate Program	----	70.2
Other Training	9.5	8.8
Total %	100.0	100.0
(N)	(315)	(419)

For all Associate degree graduates, 33 percent enrolled either full- or part-time in BA programs at CUNY since graduation. Of the AAs continuing their education as full-time students, almost two-thirds had re-enrolled in a CUNY Bachelors degree program, with an additional 26 percent enrolling in a degree program at another institution (see Table V.2). With regard to the total group of BAs, 15 percent had enrolled at least part time in CUNY graduate programs, and an additional 21 percent enrolled in other graduate programs. Among the BAs who were enrolled as full-time students when the survey was taken, we found that 20 percent were enrolled in graduate programs at CUNY, with an additional 70 percent enrolled in other graduate programs (see Table V.2). Compared to the 1979 graduates,

the recent group is more likely to be pursuing an additional degree, especially full time.

Graduates who were engaged in post-baccalaureate study enrolled in a variety of programs with medicine and health professions (19 percent), education (16 percent), business (13 percent) and law (11 percent) as the most frequently cited (see Table V.3A). Compared to the 1979 graduates there was an 11 percent decrease in the number of students enrolled in graduate study as education majors and a seven percent rise in the number of students pursuing a degree in medicine and other health related fields. This shift toward professional fields is also noted with respect to law (a five percent increase) and engineering (a two percent increase). Surprisingly, the 1981 BAs were also more likely to be pursuing advanced degrees in the humanities (seven percent versus three percent).

Table V.3A: DISTRIBUTION OF POST-GRADUATE DISCIPLINES FOR BACCALAUREATE GRADUATES ENROLLED IN DEGREE PROGRAMS

Discipline	Percent
Education	16.4
Business	12.8
Law	11.3
Medicine	10.6
Other Health	8.2
Humanities	7.2
Computer Science	5.4
Social Science	5.2
Psychology	5.2
Engineering and Architecture	4.6
Natural Science	2.1
Public Service	1.8
Life Sciences	1.5
Communications	1.4
Other	7.2
Total %	100.0
(N)	(1022)

The trend toward professional training also occurs among AAs (see Table V.3B). Of the AAs pursuing the Baccalaureate, 27 percent were enrolled in business programs, 14 percent in pre-med and other health related programs, nine percent in computer science, and eight percent in pre-engineering and architecture. As with the BAs, the percentage of AAs in these programs has increased over the two-year period.

Table V.3B: DISTRIBUTION OF BACHELOR DISCIPLINES FOR ASSOCIATE GRADUATES ENROLLED IN DEGREE PROGRAMS

Discipline	Percent
Business	27.7
Other Health	12.2
Computer Science	9.2
Education	9.0
Social Science	8.2
Pre-Engineering and Architecture	8.0
Humanities	5.0
Psychology	3.5
Life Sciences	3.0
Communications	2.3
Pre-Medicine	1.4
Public Service	1.3
Pre-Law	1.2
Natural Science	1.2
Other	7.1
Total %	100.0
(N)	(600)

In summary, we see that recent CUNY graduates are more likely to be pursuing additional education, and have higher educational aspirations than the earlier cohort (table not reported). Also, the 1981 graduates are more likely to be enrolled in professional or business programs, suggesting that they are more career oriented than the earlier group.

VI. CONCLUSIONS AND IMPLICATIONS

In most respects this study of the June 1981 graduates has served to confirm the findings from our study of the June 1979 graduates. The City University continues to serve an essential role in providing educational opportunity to New York's working class, its minorities and its poor; that a substantial number of the graduates are upwardly mobile relative to their parents; and that a combination of circumstances, including the need to work, to attend to family responsibilities and to remedy academic deficiencies, all of which entail considerable time, effort and sacrifice, result in undergraduate careers which are usually extended beyond the standard two- and four-year periods.

The recent study is particularly encouraging in that the graduates have fared rather well compared with their 1979 counterparts. Despite the current downturn in the New York City economy, incomes have kept pace for the most part with inflation, and the salaries of Bachelors graduates have improved.

There are some signs, however, that point to labor market problems. Although the recent graduates are employed in jobs more clearly related to their undergraduate training and indicate greater satisfaction with their jobs than did the June 1979 graduates, they also express a greater degree of uncertainty about their careers. These doubts about the future are most likely a reflection of the general economic situation, which appears to favor those with a four-year degree. As job opportunities diminish, employers are able to increase educational requirements, especially for entry-level positions. This tendency, a common result of a surplus of workers over jobs, works to the disadvantage of Associate graduates, at least in the short run. Moreover, it suggests that the long term market power of a BA degree is significantly greater than that of an AA degree, an eventuality about which we speculated in our earlier study.

Perhaps there is within today's depressed labor market a greater pressure to pursue additional education particularly in programs closely connected to careers. Among the graduates generally, we observe higher rates of continuing education, higher educational aspirations, and increased enrollments in professional and pre-professional training. When the job market improves at some time in the future we expect that those who have improved their education credentials in the interim stand to benefit. When such an upturn will occur and how great it will be is, of course, an open question.

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APPENDIX A: DESIGN AND METHODOLOGY

This study focuses on the post-enrollment experiences and general descriptions of City University graduates. The population includes all students who graduated from City University in June, 1981. Results are generalizable only to the post-enrollment experiences of University graduates for this period.

Response Rates

A total of 9083 City University of New York graduates from June 1981 were surveyed, of whom the great majority was sent a three wave mailing. Data on graduates for two of the colleges came in late which resulted in fewer mailings to graduates from these schools and a slightly lower response rate overall (see Table A-2). The response rates for the population are presented in Table A-1.

Table A-1: Response Rates of June 1981 Graduates.

Surveys Sent	9083
Surveys Received 1st Wave	2432
Surveys Received 2nd Wave	903
Surveys Received 3rd Wave	678
Total Surveys Received	4013
Undeliverables	665
Non Respondents	4405
Effective Response Rate*	47.7%

* Effective response rate is the percentage of graduates who responded to the questionnaire as a total of all graduates who received a questionnaire; i.e., Total Surveys Received/(Surveys Sent - Undeliverables).

Sample Representativeness

In examining the response rates by program level and college, we found no significant deviations from the expected shares of respondents, the exceptions being College of Staten Island and Bronx Community College whose graduates received fewer mailings as noted above (see Table A-2).

Table A-2: College Sampling Proportions

College	Non-Respondent %	Non-Respondent N	Respondent %	Respondent N	Total %	Total N
Baruch	6.2	314	7.7	307	6.8	621
Borough of Manhattan	3.7	186	3.7	150	3.7	336
Bronx Community	4.1	207	1.8	72	3.1	279
Brooklyn	9.4	477	11.2	448	10.2	925
City	7.7	390	7.4	298	7.6	688
Hostos	1.2	62	1.4	56	1.3	118
Hunter	7.3	371	9.0	363	8.1	734
John Jay	3.0	151	3.5	142	3.2	293
Kingsborough	8.1	409	8.1	326	8.1	735
Laguardia	2.3	115	2.8	111	2.5	226
Lehman	6.2	312	6.5	262	6.3	574
Medgar Evers	1.4	71	1.4	58	1.4	129
New York City Technical	9.1	459	7.0	282	8.2	741
Queens	13.7	696	14.5	583	14.1	1279
Queensborough	5.6	284	5.5	221	5.6	505
Staten Island	9.1	460	6.1	245	7.8	705
York	2.1	106	2.2	89	2.1	195
Total	100.0	5070	100.0	4013	100.0	9083

Focusing on demographic and economic characteristics of graduates we found that with the exception of sex, no significant departures from expected shares were encountered, ethnicity and income being the factors used to examine for response bias. Females, however, were more likely than males to respond to our questionnaire, thus overestimating their expected share (see Table A-3).

Table A-3: Response Rates by Sex

Sex	Non-Respondent %	Non-Respondent N	Respondent %	Respondent N	Total %	Total N
Female	57.8	2930	63.4	2542	60.3	5472
Male	42.2	2138	36.6	1468	39.7	3606

With the exception of this finding, we feel that our sample is an accurate representation of our population of graduates, and we therefore have a high degree of confidence in the study's findings.

APPENDIX B: SURVEY QUESTIONNAIRE

The City University of New York

Office of Institutional Research and Analysis
535 East 80 Street, New York, N.Y. 10021

Dear Graduate,

The Office of Institutional Research and Analysis (OIRA) of the City University of New York (CUNY) is conducting a follow-up survey of all June 1981 graduates. The questionnaire, which begins on the reverse side of this letter, is designed to gather information on the occupational and educational experiences of CUNY graduates.

We ask you to complete this questionnaire -- *it takes less than 15 minutes* -- as soon as you can and return it to us in the enclosed postage-paid envelope. Note that the mailing label attached to the questionnaire is for internal University use only. Your responses will be held in the strictest confidence and all the results will be reported only as statistical summaries.

Your cooperation is extremely important because the information from this study will help us to assess and plan for the educational and occupational needs of our students. Though participation is voluntary we would appreciate your completing the questionnaire and returning it to us soon. Thank you in advance for your cooperation.

Sincerely,

Barry Kaufman
University Associate Dean

[1-17]

The City University of New York

Survey of June 1981 Graduates

1. *[18]* At the present time are you
   - *1* ☐ Working full-time } PLEASE GO TO Q. 2.
   - *2* ☐ Working part-time
   - *3* ☐ Not working now } PLEASE GO TO Q. 12.

2. *[19]* Since graduating from CUNY, how long did it take you to find the job you have *now?*
   - *1* ☐ I worked in this job before graduating
   - *2* ☐ 2 months or less
   - *3* ☐ 3 - 6 months
   - *4* ☐ 7 or more months

   } PLEASE GO TO Q. 4

3. *[20]* How long have you held this job?
   - *1* ☐ about 1 yr.
   - *2* ☐ 1 yr. - 2 yrs.
   - *3* ☐ 2 yrs. - 5 yrs.
   - *4* ☐ 5 yrs. - 10 yrs.
   - *5* ☐ over 10 yrs.

4. Whom do you work for and what kind of work do you do?

   [21-23] Employer _____
   (Name of employer or organization)

   [24-26] Specific job title _____

   _____
   (Salesperson, teacher, engineer, auto mechanic, data processor, etc.)

5. *[27]* How related is your job to the major/program you were enrolled in at CUNY?
   - *2* ☐ Directly related
   - *3* ☐ Mostly related
   - *4* ☐ Somewhat related
   - *5* ☐ Not related at all

6. *[28]* Which statement best describes how you regard your job?
   - *1* ☐ Employment with definite potential for advancement
   - *2* ☐ Employment with possible potential for advancement
   - *3* ☐ Employment with little or no potential for advancement
   - *4* ☐ Temporary employment until I can find something else

7. *[29]* In your job, are you self employed or do you work for someone else?
   - *1* ☐ Self employed } PLEASE GO TO Q. 8.
   - *2* ☐ Someone else } PLEASE GO TO Q. 9.

8. *[30]* If you are self employed, are there any people who work for you and are paid by you?
   - *1* ☐ No.
   - *2* ☐ Yes, # of people _____

9. *[31]* Do you supervise anybody as part of your job?
   - *1* ☐ No.
   - *2* ☐ Yes, # of people _____

10. *[32]* Overall, how satisfied are you with your job?
    - *1* ☐ Very satisfied
    - *2* ☐ Satisfied
    - *3* ☐ Dissatisfied
    - *4* ☐ Very dissatisfied

11. *[33-37]* What is your present annual salary *before* taxes?
    $ _____ (yearly salary) } PLEASE GO TO Q. 13

12. *[38]* What is the *main* reason you are not working now?
    - *1* ☐ Continuing my education full-time
    - *2* ☐ Looking for a job but unable to find anything suitable
    - *3* ☐ Gave up looking, unable to find any job
    - *4* ☐ Illness or disability
    - *5* ☐ Laid off from my last job
    - *6* ☐ Family responsibilities
    - *7* ☐ Other (please specify) _____

Questions thirteen through fifteen ask about your educational experiences since graduation

13. *[39]* Since your graduation, have you enrolled in another educational program?
    - *1* ☐ No } PLEASE GO TO Q. 17
    - *2* ☐ Yes, bachelor's program at CUNY
    - *3* ☐ Yes, bachelor's program at college other than CUNY
    - *4* ☐ Yes, graduate or professional program at CUNY
    - *5* ☐ Yes, graduate or professional program at college other than CUNY
    - *6* ☐ Yes, other educational program

      (please describe) _____

    PLEASE CONTINUE WITH Q. 14

14. *[40]* Are you currently enrolled in this program?
    - *1* ☐ Yes, full-time
    - *2* ☐ Yes, part-time
    - *3* ☐ Not currently enrolled

15. *[41]* Regardless of whether or not you are now enrolled in an educational program, what is the highest degree you eventually intend to complete? (If you do not plan to continue your education, check the degree you now hold.)
    - *1* ☐ Associate's
    - *2* ☐ Bachelor's
    - *3* ☐ Master's
    - *4* ☐ Professional (medicine, dentistry, law, theology)
    - *5* ☐ Ph.D.

16. *[42-43]* If you are enrolled in another program, which of the following categories best describes it:
    - *02* ☐ Architecture and Environmental Design
    - *04* ☐ Biological Sciences
    - *05* ☐ Business and Management
    - *06* ☐ Communications
    - *07* ☐ Computer and Information Sciences
    - *23* ☐ Dentistry
    - *08* ☐ Education
    - *09* ☐ Engineering
    - *15* ☐ English Language and Literature
    - *10* ☐ Fine or Applied Arts
    - *11* ☐ Foreign Languages
    - *12* ☐ Health Professions
    - *14* ☐ Law
    - *17* ☐ Mathematics
    - *24* ☐ Medicine
    - *19* ☐ Physical Sciences
    - *20* ☐ Psychology
    - *21* ☐ Public Affairs and Services
    - *22* ☐ Social Sciences
    - *98* ☐ Other (please specify)

      _____
      _____

Questions seventeen through thirty focus on your experiences while studying at CUNY.

17. *[44]* During the time you were studying at CUNY, what is your best estimate of your immediate family's yearly income *before* taxes?

1 ☐ Less than $4,000
2 ☐ $4,000 - $7,999
3 ☐ $8,000 - $11,999
4 ☐ $12,000 - $15,999
5 ☐ $16,000 - $19,999
6 ☐ $20,000 - $23,999
7 ☐ $24,000 - $27,999
8 ☐ $28,000 - $31,999
9 ☐ $32,000 and above

18. *[45]* In the answer you checked above (in Question 17) which family were you referring to?

1 ☐ The family in which one of my parents (or guardian) was head of household
2 ☐ The family in which I or my spouse was head of household

19. How important was each of the following in helping you pay for college?

	Of Major Importance	Of Minor Importance	Of No Importance
[46] NY State Tuition Assistance Program (TAP)	*1* ☐	2 ☐	3 ☐
[47] Basic Educational Opportunity Grant (BEOG or Pell)	*1* ☐	2 ☐	3 ☐
[48] Supplemental Educational Opportunity Grant (SEOG)	*1* ☐	2 ☐	3 ☐
[49] Stipend from SEEK or College Discovery Program	*1* ☐	2 ☐	3 ☐
[50] Guaranteed Student Loan (GSL)	*1* ☐	2 ☐	3 ☐
[51] National Direct Student Loan (NDSL)	*1* ☐	2 ☐	3 ☐
[52] Employment during the summer	*1* ☐	2 ☐	3 ☐
[53] Personal savings	*1* ☐	2 ☐	3 ☐
[54] Employment during the school year	*1* ☐	2 ☐	3 ☐
[55] Family support or aid	*1* ☐	2 ☐	3 ☐
[56] Veterans Benefits from military service	*1* ☐	2 ☐	3 ☐
[57] Employer contribution	*1* ☐	2 ☐	3 ☐
[58] Scholarships	*1* ☐	2 ☐	3 ☐

20. *[59]* During the time you were at CUNY, were you employed?

1 ☐ No
2 ☐ Yes, mostly part-time
3 ☐ Yes, mostly full-time
4 ☐ Combination of full and part-time employment
5 ☐ Worked only occasionally

21. *[60]* What language was spoken in your home when you were studying at CUNY?

1 ☐ Only English
2 ☐ Both English and another language
3 ☐ Primarily another language

22. *[61]* During your studies at CUNY, did you change your major/program?

1 ☐ No} PLEASE GO TO QUESTION 23.
2 ☐ Yes, first major _____

_____

[62]-[63]

23. Listed below are several aspects of college life. Please indicate how satisfied or dissatisfied you were with each at the time you graduated college. If you never used a particular service, please check the last box.

never used this service
very satisfied
satisfied
dissatisfied
very dissatisfied

[64] a. Academic advising	1☐	2☐	3☐	4☐	5☐
[65] b. Financial aid counseling	1☐	2☐	3☐	4☐	5☐
[66] c. Equipment used in technical and laboratory courses	1☐	2☐	3☐	4☐	5☐
[67] d. Instruction in remedial courses	1☐	2☐	3☐	4☐	5☐
[68] e. Employment service to help in finding a job while a student	1☐	2☐	3☐	4☐	5☐
[69] f. Cooperative education programs	1☐	2☐	3☐	4☐	5☐
[70] g. Orientation programs for new students	1☐	2☐	3☐	4☐	5☐
[71] h. Services provided by the College Discovery (CD) or SEEK program	1☐	2☐	3☐	4☐	5☐
[72] i. Services provided for the handicapped	1☐	2☐	3☐	4☐	5☐
[73] j. Career counseling	1☐	2☐	3☐	4☐	5☐

24. At the time you graduated from college, how satisfied or dissatisfied were you with each of the following? Please check one box for each item.

very satisfied
satisfied
dissatisfied
very dissatisfied

[74] a. Overall quality of classroom instruction	1☐	2☐	3☐	4☐
[75] b. Job possibilities related to my program of study	1☐	2☐	3☐	4☐
[76] c. Material covered in courses	1☐	2☐	3☐	4☐
[77] d. Information on college programs provided at the time of admission	1☐	2☐	3☐	4☐
[78] e. Class sizes	1☐	2☐	3☐	4☐
[79] f. Opportunities to meet with instructors outside of class	1☐	2☐	3☐	4☐
[80] g. Availability of courses in areas that interested me	1☐	2☐	3☐	4☐
[81] h. Helpfulness of staff (clerks, secretaries) in various college offices	1☐	2☐	3☐	4☐
[82] i. Job placement services (recruitment and counseling)	1☐	2☐	3☐	4☐

25. *[83]* In which semester did you *first* enroll in the college from which you graduated?

1 ☐ Fall 1979 or later
2 ☐ Spring 1979
3 ☐ Fall 1978
4 ☐ Spring 1978
5 ☐ Fall 1977
6 ☐ Spring 1977
7 ☐ Fall 1976
8 ☐ Spring 1976
9 ☐ Fall 1975 or earlier

26. *[84]* When you first began at CUNY, were you enrolled full-time (i.e., for 12 or more credits or equated credits)?

1 ☐ Yes, full-time

2 ☐ No, not full-time

27. *[85]* While you were a student at CUNY were you enrolled:

1 ☐ Only full-time

2 ☐ Mostly full-time

3 ☐ About half full-time

4 ☐ Mostly part-time

5 ☐ Only part-time

28. *[86]* While you were a student at CUNY, did you interrupt your studies for a semester or longer for any reason?

1 ☐ No

2 ☐ Yes

29. *[87]* *Before* you entered the college you graduated from, were you a student in any other college?

1 ☐ No

2 ☐ Yes, at CUNY

3 ☐ Yes, at a college other than CUNY

30. *[88]* While you were at CUNY, did you have any handicapped condition that required special services from the college?

1 ☐ Yes

2 ☐ No

Before concluding we would like you to provide us with the following information

---

31. *[89]* How much formal education do your parents (or guardians) have?

Father *[89]*	Mother *[90]*	
1 ☐	*1* ☐	8th grade or less
2 ☐	*2* ☐	Some high school
3 ☐	*3* ☐	High school graduate
4 ☐	*4* ☐	Some college
5 ☐	*5* ☐	College graduate
6 ☐	*6* ☐	Post graduate or Professional degree
7 ☐	*7* ☐	Do not know

32. *[91]* Which of the following ethnic categories best describes you?

1 ☐ Puerto Rican

2 ☐ Other Hispanic

3 ☐ Black (non-Hispanic)

4 ☐ White (non-Hispanic)

5 ☐ American Indian

6 ☐ Asian or Pacific Islander

33. *[92]* Did either you or your parents immigrate to the United States?

1 ☐ No

2 ☐ Yes, I did

3 ☐ Yes, both my parents and I did

4 ☐ Yes, one or both of my parents did

34. *[93-94]* From what country or part of the world did you or your family originally come? (If from more than one place, please check the one to which you feel closest.)

1 ☐ Africa

2 ☐ China

3 ☐ Other Asian

4 ☐ Colombia

5 ☐ Cuba

6 ☐ Dominican Republic

7 ☐ Ecuador

8 ☐ Haiti

9 ☐ Jamaica

10 ☐ Puerto Rico

11 ☐ Other Caribbean or Latin American

12 ☐ England, Scotland, or Wales

13 ☐ Germany

14 ☐ Greece

15 ☐ Ireland

16 ☐ Italy

17 ☐ Poland

18 ☐ Russia

19 ☐ Other European

20 ☐ Other country than above: _____

21 ☐ Don't know

35. What are the religious preferences of you and your parents? (Check one in each column.)

[95] Yours	*[96]* Father's	*[97]* Mother's	
1 ☐	*1* ☐	*1* ☐	Catholic
2 ☐	*2* ☐	*2* ☐	Protestant
3 ☐	*3* ☐	*3* ☐	Jewish
4 ☐	*4* ☐	*4* ☐	No preference
5 ☐	*5* ☐	*5* ☐	Other (please specify)

_____

36. *[98]* Sex

1 ☐ Male *2* ☐ Female

37. *[99-100]* How old are you?

_____ (years)

38. *[101]* Marital Status

1 ☐ Single

2 ☐ Separated, Divorced

3 ☐ Widowed

4 ☐ Married

39. *[102]* How many dependent children do you have living with you at this time?

1 ☐ None

2 ☐ One

3 ☐ Two

4 ☐ Three

5 ☐ Four

6 ☐ Five or more

40. *[103-104]* On a scale of 1 (for poor) to 10 (for excellent), how would you rate your chances for future occupational success? (Please circle your choice.)

1 2 3 4 5 6 7 8 9 10

poor average excellent

[105-106]

Thank you for your cooperation. Now please place the completed questionnaire in the return envelope and mail (no postage required) as soon as possible.